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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/543,028

Applicant(s)

LEGRAND, EMMANUEL

Examiner

GHASSEM ALIE

Art Unit

3724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09/05/08.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09/05/08 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 10/543,026.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI/88)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 09/05/08 has been entered, wherein claims 1-9 have been amended; and claims 10-12 have been cancelled.

Election/Restrictions

2. Applicant's argument with respect to the restriction by original presentation set forth in the Final action mailed on 05/05/08 is mute, since claims 11-12 have been cancelled. However, applicant asserts that independent claim 11 recites the same cutting head set forth in independent claim 1, but also includes more specific recitations regarding the spacing between the planes. Applicant further asserts that this is not a situation where two subcombinations and a combination are claimed. Applicant's argument is misplaced. The restriction by original presentation is between dependent claim 5 and new independent claim 11. As stated in the Final Office action, dependent claim 5, which includes all the limitations of the independent claim 1, includes a specific arrangement between the two strings which is not recited in the new claim 11; conversely, new claim 11 includes a specific spacing between a mutually closest two planes which is not recited in claim 5. Therefore, since claim 5 which is directed to a separate subcombination or invention than claim 11 and has been originally examined, claim 11 has withdrawn from consideration.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Jones et al. (4,905,465), hereinafter Jones '465. Regarding claim 1, Jones '465 teaches a cutting head "A" for a brush cutter or an edge trimmer including a plurality of string outlets "F" for a plurality of cutting strings "E". Jones '465 also teaches that the axes of the cutting strings outlets "E" are distributed in a plurality of mutually spaced planes; and adjacent planes are spaced from each other by a distance that is greater than 1.8 times the height or thickness of the string "E". It should be noted that the first top holes "F" around the rim "D" are located in a first plane. The last holes "F" at the bottom of the rim "D" are located in a second plane. These two planes are considered to be "a plurality of mutually spaced planes" that are located "adjacent" or "near" each other. The distance between the first holes or outlets in the first plane to the last holes or outlets in the second plane is at least greater than 1.8 times the height or thickness of the string "E". This is clearly shown in all the Figs. 11-18. It should be noted that claim 1 does not call for more than two planes, and that there are no cutting string outlets between the two adjacent cutting string outlets or places. Jones '465 also teaches that in each plane the respective string outlets are at the same level, and in all planes the direction of rotation of the head is the same. See Figs. 1-18 in Jones '465.

Regarding claim 2, Jones '465 teaches everything noted above including that the at least two planes are mutually spaced by a distance less than or equal to approximately 5 times the height of each string.

Regarding claims 3-4, Jones '465 teaches everything noted above including that the peripheral direction of the head, the strings existing in a first plane are alternated with the string alternated with the strings exiting in a second plane adjacent to the first. Jones also teaches that the strings exit the head in a regularly distributed manner.

5. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Taylor (4,238,866). Regarding claim 1, Taylor teaches a cutting head for a brush cutter or an edge trimmer. It should be noted that the apparatus 1 in Taylor could be used for trimming or cutting grass. Taylor also teaches that the head includes a plurality of string outlets for a plurality of cutting strings 54. Taylor also teaches that the axes of the cutting strings outlets are distributed in a plurality of mutually spaced planes; and adjacent planes are spaced from each other by a distance that is greater than 1.8 times the height or thickness of the string 54. Taylor also teaches that in each plane the respective string outlets are at the same level, and in all planes the direction of rotation of the head is the same. See Figs. 1-2 in Taylor.

Regarding claim 2, Taylor teaches everything noted above including that the at least two planes are mutually spaced by a distance less than or equal to approximately 5 times the height of each string.

Regarding claims 3-4, Taylor teaches everything noted above including that the peripheral direction of the head, the strings existing in a first plane are alternated with the

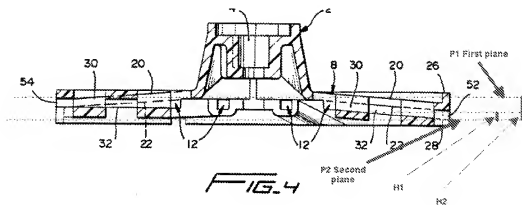
string alternated with the strings exiting in a second plane adjacent to the first. Jones also teaches that the strings exit the head in a regularly distributed manner.

6. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Jones et al. (5,048,278), hereinafter Jones '278. Regarding claim 1, Jones '278 teaches a cutting head 'R' for a brush cutter or an edge trimmer including a plurality of string outlets 52, 54 for a plurality of cutting strings 10. Jones '278 also teaches that the axes of the cutting strings outlets 52, 54 are distributed in at least two adjacent planes P1 and P2 mutually spaced by a distance H2 greater than the height or thickness H1 of the string 10. See Fig. 4 below. It should be noted that the outlet 52 and its opposite outlet 52 is along a plane that is distance from the plane along which the outlet 54 and its opposite outlet 50 are located. It should also be noted that the axes of the cutting string have not been specifically defined in the claim. In other words, the axis of the outlet 52 could be defined by the line passing through the bottom surface of the outlet 52 and the axis of the outlet 54 could be defined by a line passing through the upper surface of the outlet 54, as shown in Fig. 4 below. Jones '278 also teaches that in each plane the respective string outlets are at the same level, and in all planes the direction of rotation of the head is the same. See Figs. 1-18 in Jones '465. Jones '278 also teaches that the distance H2 between the planes P1 and P2 is greater or equal 1.8 times the height H1 of the string. Jones '278 teaches a distance between the planes that appears to be 1.8 times the height of the string. See Fig. 4 below.

Regarding claim 2, Jones '278 teaches everything noted above including that the at least two planes are mutually spaced by a distance less than or equal to approximately 5 times the height of each string.

Regarding claims 3-4, Jones '278 teaches everything noted above including that the peripheral direction of the head, the strings existing in a first plane are alternated with the string alternated with the strings exiting in a second plane adjacent to the first. Jones also teaches that the strings exit the head in a regularly distributed manner.

Regarding claims 5-6, Jones '278 teaches everything noted above including that the two strings 10 are provided exiting in a first plane in diametrically opposed regions, and two strings exiting in a second plane adjacent to the first, in diametrically opposed regions also, in the string outlets 52, 54 are distributed approximately 90 degrees in the peripheral direction. Jones '278 also teaches that each string 10 has a ridge, and in that the head includes means 30 for maintaining each string in an orientation such its cutting ridge is in a position to lead the attack on plants. It should be noted that the string 10 three ridges since it has triangular shape. Therefore, one of the ridges is always oriented in a position to lead the attack on plants.



Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

To the degree that it could be argued that Jones '278 does not explicitly or positively teach that the distance between the two planes is greater or equal to approximately 1.8 times the height of the string, the rejection below is applied.

8. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones et al. (5,048,278), hereinafter Jones '278. Regarding claim 1, Jones '278 teaches a cutting head 'R' for a brush cutter or an edge trimmer including a plurality of string outlets 52, 54 for a plurality of cutting strings 10. Jones '278 also teaches that the axes of the cutting strings outlets 52, 54 are distributed in at least two adjacent planes mutually spaced by a distance greater than the height or thickness of the string 10. It should be noted that the outlet 52 and its opposite outlet 52 is along a plane that is distance from the plane along which the outlet 54 and its opposite outlet 50 are located. Jones '278 also teaches that in each plane the respective string outlets are at the same level, and in all planes the direction of rotation of the head is the same. See Figs. 1-18 in Jones '465. See Figs. 1-6 in Jones '278.

Jones '278 does not explicitly teach that the distance between the planes is greater or equal 1.8 times the height of the string. Jones '278 teaches a distance between the planes that appears to be 1.8 times the height of the string; Jones '278 does not positively disclose that the distance between the two planes is 1.8 times or greater than the height of the string. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select the distance between the two planes or the height of the string in a manner that the distance between the two planes is 1.8 times or greater than the height of

the string, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claim 2, Jones '278 teaches everything noted above including that the at least two planes are mutually spaced by a distance less than or equal to approximately 5 times the height of each string.

Regarding claims 3-4, Jones '278 teaches everything noted above including that the peripheral direction of the head, the strings existing in a first plane are alternated with the string alternated with the strings exiting in a second plane adjacent to the first. Jones also teaches that the strings exit the head in a regularly distributed manner.

Regarding claims 5-6, Jones '278 teaches everything noted above including that the two strings 10 are provided exiting in a first plane in diametrically opposed regions, and two strings exiting in a second plane adjacent to the first, in diametrically opposed regions also, in the string outlets 52, 54 are distributed approximately 90 degrees in the peripheral direction. Jones '278 also teaches that each string 10 has a ridge, and in that the head includes means 30 for maintaining each string in an orientation such its cutting ridge is in a position to lead the attack on plants. It should be noted that the string 10 three ridges since it has triangular shape. Therefore, one of the ridges is always oriented in a position to lead the attack on plants.

9. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jones '278 in view of Fogle (5,463,815). Regarding claim 7, Jones '278 teaches everything noted above except that each string is substantially square. However, the use of circular, square, and other

shapes of strings is well known in the art such as taught by Fogle. See Figs. 1-8 in Fogle. It would have been obvious to a person of ordinary skill in the art to provide the cutting head of Jones '278 with square-shaped strings, as taught by Fogle, since different shape of strings works the same as clearly taught by Fogle, and one can be substituted for another.

10. Claims 8-9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jones '278 in view of Rouse (4,756,146). Regarding claims 8-9, Jones '278 teaches everything noted above except the head is implemented by asserting parts of general disc shape defining string semi-channels opposite one another. It should be noted that Jones '278 teaches that the head is formed from one disc shape part. However, the use of head formed from two disc shape parts is well known in the art such as taught by Rouse. See Figs. 1-4 in Rouse. It would have been obvious to a person of ordinary skill in the art to form the cutting head of Jones '278 from two disk shape parts as an alternative manner that facilitates replacement of the strings.

Response to Amendment

11. Applicant's arguments filed on 03/03/08 have been fully considered but they are not persuasive.

Applicant's argument that Jones '465 does not teach that the adjacent planes pr holes F are spaced from one another a distance approximately 1.8 times the height of the string is not persuasive. As stated above, the first top holes 'F' around the rim 'D' are located in a first plane. The last holes "F" at the bottom of the rim "D" are located in a second plane. These two planes are considered to be "a plurality of mutually spaced planes" that are located "adjacent" or "near" each other. The distance between the first holes or outlets in the first plane to the last holes or outlets in the second plane is at least greater than

1.8 times the height or thickness of the string "E". This is clearly shown in all the Figs. 11-18. It should be noted that claim 1 does not call for more than two planes, and that there are no cutting string outlets between the two adjacent cutting string outlets or planes. It should be noted that the claim 1 does not require that the distance between the two closest string outlets to be about 1.8 times the height of a string with a particular diameter. It should be noted that the string height could be variable and a string with a very thin height or thickness could be used with the cutting head of Jones '465. In this case, the distance between the two closest string outlets could be 1.8 times the height or thickness of the string. Applicant's argument that Jones '465 is silent about the distance between the two planes or string outlets is not persuasive. As stated above, Figs. 11-18 in Jones '465 clearly show that the distance between the two string outlets "F" which are spaced by two or more string outlets is more than 1.8 times the height or thickness of the string "E." These two string outlets are located on different planes that are "adjacent" or "near" each other.

Applicant's argument that Jones' 278 does not teach that the distance between the two adjacent planes is approximately equal or greater than 1.8 times the thickness of the string is not persuasive. Firstly, it appears that the distance H2 between the planes P1 and P2 in Jones '278 is approximately 1.8 times the height of the string H1. It should be noted that the distance between the two planes "H2" is approximately 1.8 times or more than the thickness of the string 10, as shown in Fig. 4 above. Secondly, Jones '278 may not positively disclose that the distance between the two planes is 1.8 times or greater than the height of the string. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select the distance between the two planes or the height of

the string in a manner that the distance between the two planes is 1.8 times or greater than the height of the string, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Applicant's argument that such a modification is "an impermissible hindsight reconstruction" is not persuasive. As stated above, Jones '278 teaches that the two planes P1 and P2 are distance from each other in a distance that may not be 1.8 times the thickness of the string. However, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. This is not based on "an impermissible hindsight reconstruction", but it is based on discovering the optimum or workable ranges which is within the skill of a person ordinary skill in the art.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ghassem Alie whose telephone number is (571) 272-4501. The examiner can normally be reached on Mon-Fri 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Boyer Ashley can be reached on (571) 272-4502. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information

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about the PAIR system, SEE <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Ghassem Alie/

Primary Examiner, Art Unit 3724

October 29, 2008